

REMARKS

Claims 1-27 are pending in the above-identified application. Claims 13-22, 25 and 26 were previously withdrawn from consideration in response to a restriction requirement. Claims 3-12 and 27 were allowed. With this Amendment, claims 1 and 2 were amended, claims 23 and 24 were cancelled. Accordingly, claims 1 and 2 remain at issue in the above-identified application.

35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kashimoto, JP 07-140455. Applicant respectfully traverses this rejection.

With regard to independent Claim 1 as amended, Applicants claim an optical switch that has the following limitation, among others:

“a multi-layer structure composed of a plurality of light transmissive layers disposed between said light emergence portion and said optical waveguide;

wherein letting σ be a refractive index control accuracy at the time of producing said multi-layer structure, a refractive index of at least one light transmissive layer in said multi-layer structure is different from a refractive index of a light transmissive layer other than said at least one light transmissive layer in said multi-layer structure by 3σ or more.”

Furthermore, Applicants teach that one or more light transmissive layers (e.g., transparent electrode layers 33 and 37 in Fig. 3) of the multi-layer structure may be formed to have the same refractive index as the optical waveguide while another one or more light transmissive layers (e.g., alignment film layers 34 and 36 in Fig. 3) may be formed to have a different refractive

index by 3σ or more without reducing the light emergence efficiency of the optical switch. (See Application at pg. 21 line 3 - pg. 22 line 24; pg. 24 line 1 - pg. 25 line 4; Fig. 3)

The Kashimoto reference discloses a liquid crystal device that has an optical-waveguide layer 3 and a light emergence portion 200, where the optical-waveguide is disposed between two buffer layers 2 and 4. Kashimoto also teaches that the two buffer layers 2 and 4 have the same refractive index that is lower than the refractive index of the optical-waveguide. Kashimoto further teaches forming the second layer 4, two insulation layers 7 and 9, and a pixel electrode layer 10 between the optical-waveguide layer 3 and the light emergence portion 200. But Kashimoto fails to teach forming any of these layers 4, 7, 9 or 10 between the optical-waveguide layer 3 and the light emergence portion 200 so that at least one layer has a refractive index that is different by 3σ or more than another layer in Kashimoto's multi-layer structure. Thus, Kashimoto fails to teach or suggest all the limitations of independent Claim 1.

Claim 2 depends from Claim 1 and should be deemed allowable for at least the same reasons as Claim 1. Accordingly, Applicants respectfully request that the rejections to Claims 1 and 2 be withdrawn.

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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